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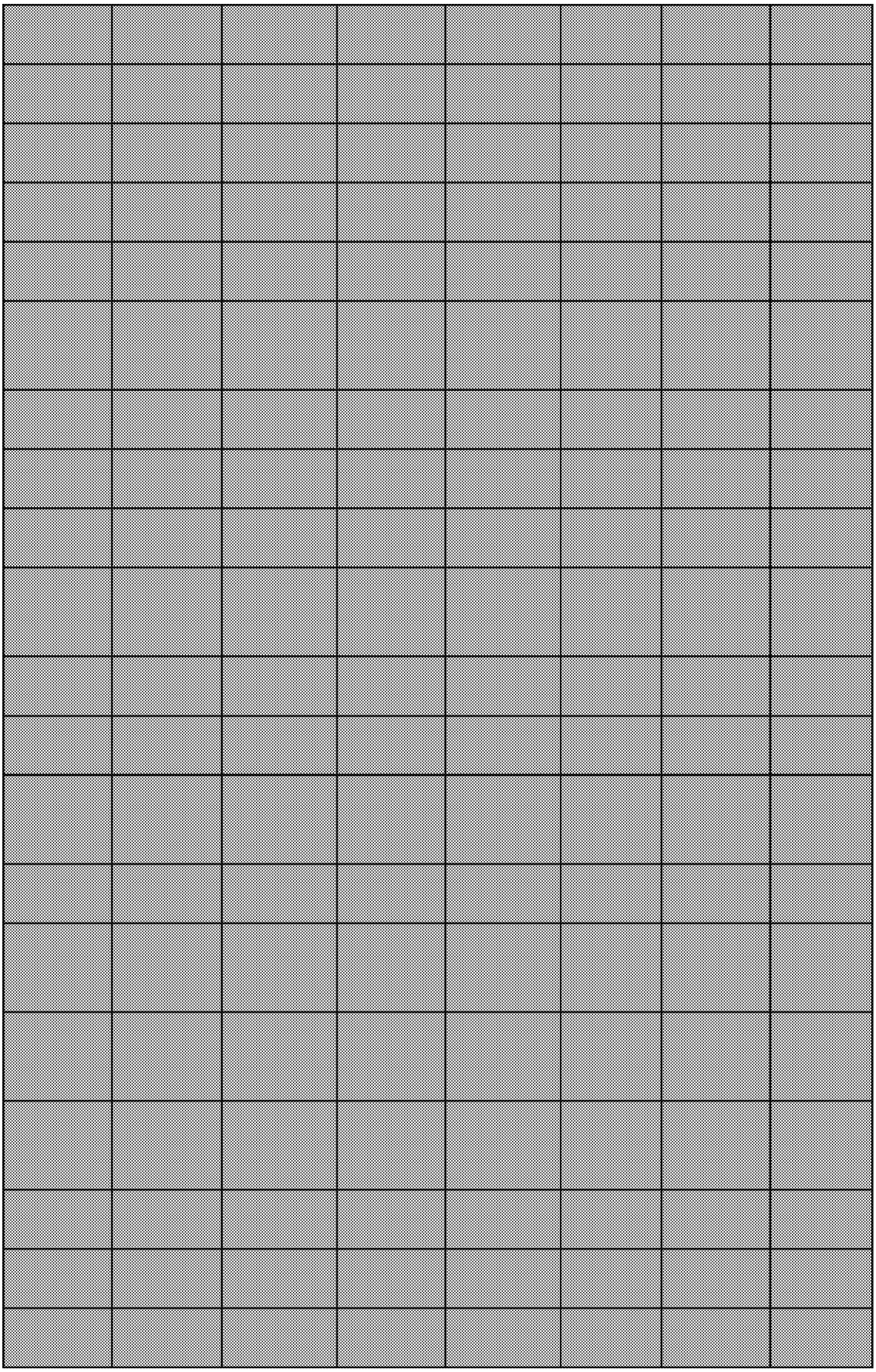

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In Arabidopsis, NPR1 (non-expressor of pathogenesis related genes 1, AtNPR1) functions downstream of salicylic acid (SA
Marker-free transgenic white poplar (Populus alba L., cv 'Villafranca') plants, expressing the PsMT (A1) gene from Pisum s
Hydrogen peroxide (H(2)O(2)) plays a key role in the regulation of plant responses to various environmental stresses and
Thiamin and thiamin pyrophosphate (TPP) are well known for their important roles in human nutrition and enzyme catal
Here, we assessed modulation of the poly(ADP-ribosyl)ation (PAR) reaction by an Arabidopsis (Arabidopsis thaliana) ADP
Lipocalins are small ligand-binding proteins with a simple tertiary structure that gives them the ability to bind small, gene
Tocopherols belong to the Vitamin E family of amphiphilic antioxidants, together with the subfamily of tocotrienols. They
The aim of this study was the isolation and characterization of the culturable bacteria inhabiting the leaves of transgenic
Isoflavone reductase is an enzyme involved in isoflavonoid biosynthesis in plants. However, rice isoflavone reductase-like
The ability of the primitive red alga Cyanidioschyzon merolae to adapt to high temperatures was utilized to produce ther
Ferritins are iron-storage proteins which, in Arabidopsis, have a clear role in protection against oxidative stress. Plant fer
Plants synthesize compatible solutes such as glycinebetaine (GB) in response to abiotic stresses. To evaluate the synergis
Rice is a very important food staple that feeds more than half the world's population. Two major Asian cultivated rice (Or
To evaluate the role of salicylic acid (SA) in Nb-mediated hypersensitive resistance to Potato virus X (PVX) avirulent strain
BACKGROUND: DnaJ proteins participate in many metabolic pathways through dynamic interactions with various compo
A tomato (Lycopersicon esculentum Mill.) monodehydroascorbate reductase gene (LeMDAR) was isolated. The LeMDAR-
Vitamin C (L-ascorbic acid, AsA) has important antioxidant and metabolic functions in both plants and animals. Once used
Mutations in the DJ-1 gene (also known as PARK7) cause inherited Parkinson's disease, which is characterized by neurona
Osmotic stress imposed by soil salinity and drought stress significantly affects plant growth and development, but osmot
This study investigated the reactive oxygen species (ROS) tolerance mechanism of a paraquat-resistant Pisum sativum lin

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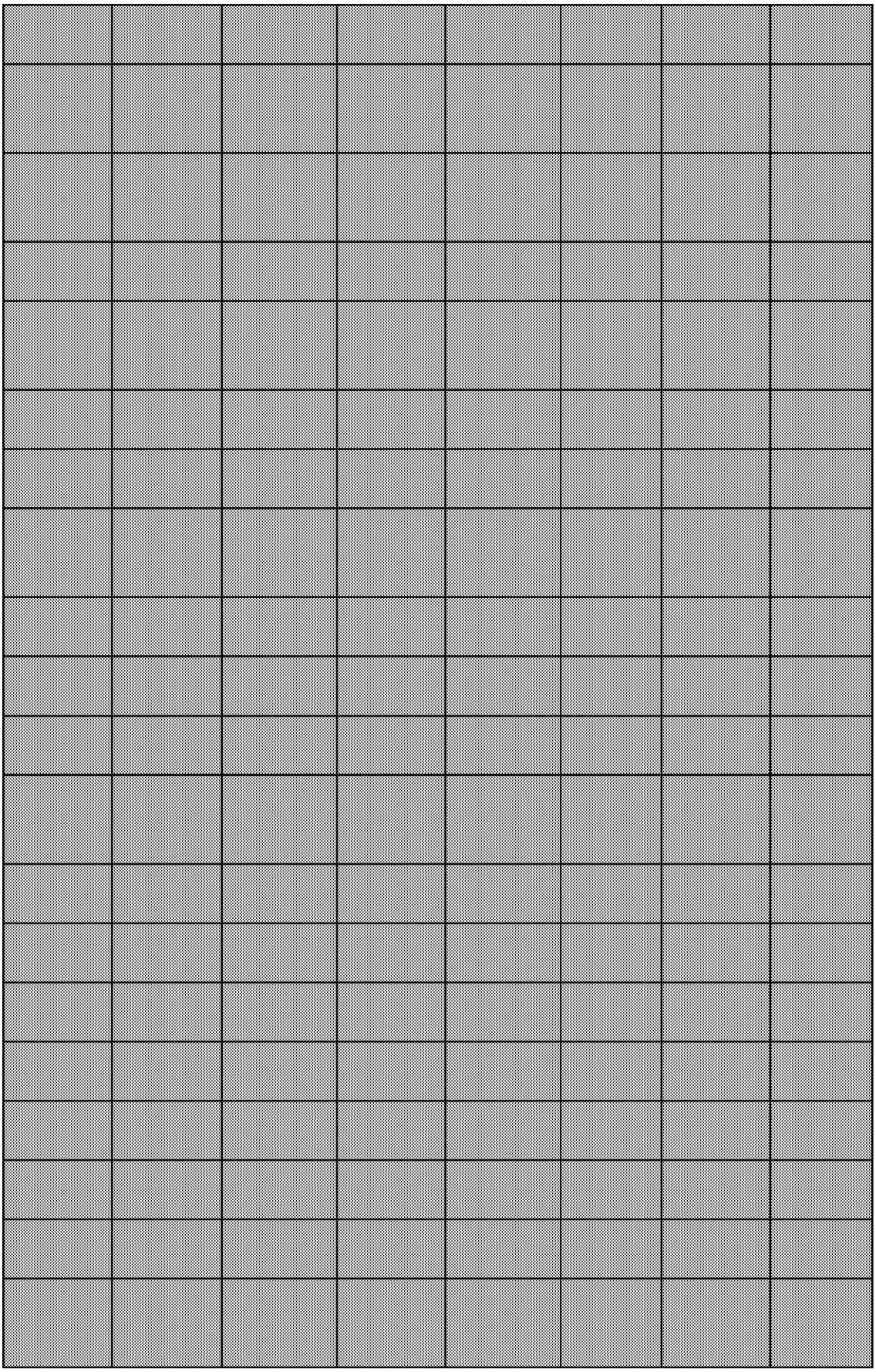

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Oxidative stress is a major threat for plants exposed to various environmental stresses. Previous studies found that trans
Nucleoside diphosphate kinase 2 (NDPK2) is known to regulate the expression of antioxidant genes in plants. Previously,
Environmental stresses are major factors in limiting plant growth and crop production. To find genes improving salt toler
Various thioredoxin (Trx) proteins have been identified in plants. However, many of the physiological roles played by the
GDP-Mannose 3',5'-epimerase (GME; EC 5.1.3.18) catalyses the conversion of GDP-D-mannose to GDP-L-galactose, an im
Vitamin B(6) is an essential nutrient in the human diet derived primarily from plant sources. While it is well established a
Mitogen-activated protein kinase (MAPK) cascades play important roles in mediating pathogen responses and reactive o
Poly(ADP-ribosyl)ation is a post-translational protein modification that plays important roles in many cellular processes i
One approach to understanding the Reactive Oxygen Species (ROS)-scavenging systems in plant stress tolerance is to ma
Reactive oxygen species (ROS), including superoxide anions, hydrogen peroxide and hydroxyl radicals are generated thro
Oxidative stress is one of the major causative factors for injury to plants exposed to environmental stresses. Plants have
Current studies, particularly in Arabidopsis, have demonstrated that mutants deficient in cytosolic ascorbate peroxidases
Proteomics facilitates our understanding of cellular processes and network functions in the plant defense response durin
The developmental stage has an influence on the overall responses of plants under biotic or abiotic stress conditions. Ho
Glutaredoxins (GRXs) belong to the antioxidant and signalling network involved in the cellular response to oxidative stres
Metallothioneins (MTs) are small, cysteine-rich and metal-binding proteins which are involved in metal homeostasis and
Small heat shock proteins are involved in stress tolerance. We previously isolated and characterized a rice cDNA clone, O
Paraquat is one of the most widely used herbicides in the world. However, no paraquat transporter has been isolated in
Dehydration-responsive element-binding proteins (DREBs)regulate plant responses to environmental stresses. In the cur
Acylamino acid-releasing enzyme/oxidized protein hydrolase (AARE/OPH) has been biochemically demonstrated to be a

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